Propaq® CS and Propaq Encore®

Update to Service Manual

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Advancing Frontline Care™

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Update to Service Manual

This document provides technical information for Propaq CS and Propaq Encore monitors. This document is an addition to the information in the following manuals:

- *Propaq CS Service Manual 810-1101-01 Rev.A*
- *Propaq Encore Service Manual 810-0696-02 Rev.A*

For monitor service information, please refer to the preceding manuals.

Invasive Blood Pressure (IBP) Considerations

When a Propaq CS or Propaq Encore monitor is used to monitor invasive blood pressure at pulse rates exceeding 250 BPM, refer to the IBP waveform on the display or printout to determine Systolic and Diastolic pressures.

The dynamic response of the monitor is limited by a combination of hardware and software filtering, digital sampling, and display bandwidth. In the case of a patient monitor, the most reliable output is the waveform as seen on the display or strip chart. Relying on the numeric readings for systolic/diastolic values at high frequencies can be problematic because these numbers differentiate pulse beats, and do not measure sine waves at the limits of the band pass filter. The method of measuring waveform amplitude excursions on the display or strip chart avoids these limitations.

Performance requirements for the dynamic response of an invasive pressure channel are driven by the frequency domain content of the signal being measured. Invasive pressure channels in bedside monitors are used by clinicians to measure arterial pressure, central venous pressure, pulmonary artery and capillary pressure, and intracranial pressure. The most demanding of these applications from a dynamic response perspective is arterial and pulmonary artery pressure measurements. This is due to the higher rate of change of these physiologic signals.

The invasive pressure measurement system must also be carefully considered. The measurement system for invasive pressure includes a fluid-filled catheter, transducer, and the monitor. Frequency response is highly dependent on the configuration (mostly length and compliance of tubing), and care in assembly. A small air bubble, trapped anywhere in the pressurized fluid can severely compromise frequency response.

For all of these reasons, use the IBP waveform to determine systolic and diastolic values at pulse rates exceeding 250 BPM.